

WE CLAIM:

1. A retractable mooring line device, comprising
  - a housing comprising side plates
  - a rotatable reel comprising sidewalls affixed in spaced relation to a hub, rotatably mounted to the side plates of the housing, the sidewalls each having a series of notches about its periphery, and
  - a locking mechanism comprising a latching member pivotably mounted adjacent to the reel by a hub, comprising a latch positioned and configured to move between an unlocked position in which the latch disengages from the reel and a locked position in which the latch engages at least one of the series of notches about the periphery of each of the side walls of the reel,
  - whereby when the latch is engaged to the notches the reel is prevented from rotation, and when the latch is disengaged from the notches the reel is capable of rotation in two directions.
2. The device of claim 1 wherein the housing comprises a gunnel plate affixed to a top edge of each side plate and the latching member comprises a spring bearing against the gunnel plate and urging the latch toward the locked position.
3. The device of claim 1 wherein the latching member comprises an actuating plate exposed to an exterior of the housing.
4. The device of claim 3 wherein the actuating plate and the latch are disposed on opposite sides of a hub, and the hub of the latching member is pivotally secured to the housing adjacent to the reel.
5. The device of claim 3 wherein the latching member is biased to the locked position by a spring bearing against the housing.
6. The device of claim 5 wherein the spring bears against a removable gunnel plate.

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7. The device of claim 1 wherein the latching member comprises a latch plate having notches spaced apart a distance corresponding to a spacing between the sidewalls and large enough to allow the sidewalls to pass freely therethrough.
8. The device of claim 7 wherein the latch plate is slidably disposed through the housing adjacent to the reel and exposed to an exterior of the housing for actuation.
9. The device of claim 8 wherein the latching member is biased to the locked position by a spring bearing against the housing.
10. The device of claim 9 wherein the latch plate is slidably disposed through a gunnel plate and the spring bears against a bottom plate of the housing.
11. The device of claim 1 wherein the reel comprises a hub mounted over a bushing comprising a self-lubricating plastic, which is rotatably mounted to a pin projecting from the housing.
12. The device of claim 11 wherein the reel is spring loaded for automatic retraction when the locking mechanism is released.
13. The device of claim 12 wherein a spring has a first anchoring end engaging the pin and a second anchoring end engaging the hub.
14. The device of claim 13 wherein the spring is contained within a casing which contains the spring against dislodgement when the reel is removed from the housing.
15. The device of claim 11 wherein the pin is rotationally fixed relative to the housing and the reel rotates around the pin.
16. A retractable mooring line device, comprising  
a housing comprising side plates and a gunnel plate affixed to a top edge of each side plate,

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a rotatable reel comprising sidewalls affixed in spaced relation to a hub, rotatably mounted to the side plates of the housing, the sidewalls each having a series of notches about its periphery, and

a locking mechanism comprising a latching member pivotably mounted adjacent to the reel by a hub, comprising an actuating plate exposed to an exterior of the housing and a latch disposed on opposed sides of the hub, the latch being positioned and configured to move between an unlocked position in which the latch disengages from the reel and a locked position in which the latch engages at least one of the series of notches about the periphery of each of the side walls of the reel, the latching member comprising a spring bearing against the gunnel plate and urging the latch toward the locked position,

whereby when the latch is engaged to the notches the reel is prevented from rotation, and when the latch is disengaged from the notches the reel is capable of rotation in two directions.

17. The device of claim 16 wherein the latching member comprises a latch plate having notches spaced apart a distance corresponding to a spacing between the sidewalls and large enough to allow the sidewalls to pass freely therethrough.

18. The device of claim 17 wherein the latch plate is slidably disposed through the housing adjacent to the reel and exposed to an exterior of the housing for actuation.

19. The device of claim 18 wherein the latch plate is slidably disposed through a gunnel plate and the spring bears against a bottom plate of the housing.



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International Bureau of WIPO  
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Dear Sir/Madam:

**Re: International Application No. PCT/CA03/00362**  
**International Filing Date: 18 March 2003 (18.03.2003)**  
**Priority Date: 11 September 2002 (11.09.2002)**  
**Title: RETRACTABLE MOORING LINE DEVICE**  
**Applicant: GORDON, Leslea C.; KNIGHT, Darrel C.; HANNA Farfat**  
**Our File: 505-8/MBE**

**STATEMENT UNDER ARTICLE 19(1)**

The original claims are hereby cancelled, in favour of the 19 claims presented herewith.

The applicant has amended the main claims (claims 1 and 16) to specify that the engagement of the latch to the reel prevents rotation of the reel in both directions. The applicant submits that this clearly distinguishes the present invention over the most relevant prior art, D1 (Palmquist), in which the reel in locks in only one direction, like a ratchet. As noted in the disclosure at pp. 1-2, "...the use of a ratchet-type lock with a spring-loaded payoff reel can cause problems due to the oscillating motion experienced by a moored boat in wavy conditions. Where the mooring structure is above the level of the securing point on the boat, as the boat is lifted upwardly by a wave the tension on the mooring line is temporarily released, which allows the reel to rotate in the take-up direction. As the crest of the wave passes, the boat begins to fall, but in the newly locked position of the reel the mooring line is too short to allow the boat to freely roll off of the wave, causing the boat to list away from the mooring structure. Similarly, where the mooring structure is below the level of the securing point on the boat, when the boat falls into a trough the tension on the mooring line is temporarily released, which allows the reel to turn in the take-up direction and locks the mooring line so that as the crest of the next wave arrives and lifts the boat the mooring line is too short to allow the boat to rise to the crest of the wave, causing the boat to

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list toward the mooring structure." The present invention as claimed in the attached amended claims avoids this problem.

The applicant submits that the remaining references do not render the subject invention obvious, because:

- D2 (Bonate) has no notches around the periphery of the sidewalls of his reel, which is a feature recited in main claims 1 and 16;

- D3 (Chavatte) has no notches at all. He also has no separate sidewalls, and locks his reel solely by frictional resistance;

- D4 (Campbell) has recesses for engagement of the latch on one side of the reel only, which results in unbalancing of the force on the reel and increased opportunities for dislodgement of the latch. Main claims 1 and 16 recite that the latch engages "about the periphery of each of the side walls of the reel." Further, Campbell's recesses are not notches, since they do not traverse the reel, which also increases opportunities for dislodgement of the latch; and

- D5 (Nikolic) has holes for engagement of the latch on one side of the reel only, and the holes are not around the periphery of the sidewall of the reel as claimed in claims 1 and 16, which reduces the leverage of the latch against the reel.

The remaining references are indicated as background only or relevant only to particular features set out in the subclaims, and accordingly do not bear on the patentability of the main claims. The applicant submits that the attached amended claims are therefore in allowable condition.

In original claims 1 and 16 the latching member was recited as being pivotably mounted. In amended claims 1 and 16 this feature has been removed, so that the claims cover both embodiments of the invention. The prior art has no bearing on this feature.

Yours very truly,

**DIMOCK STRATTON CLARIZIO LLP**



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Encl.      substantive claims 1-19